Large Carnivore Management

Large Carnivore Section – Wyoming Game and Fish Department

Mountain Lions

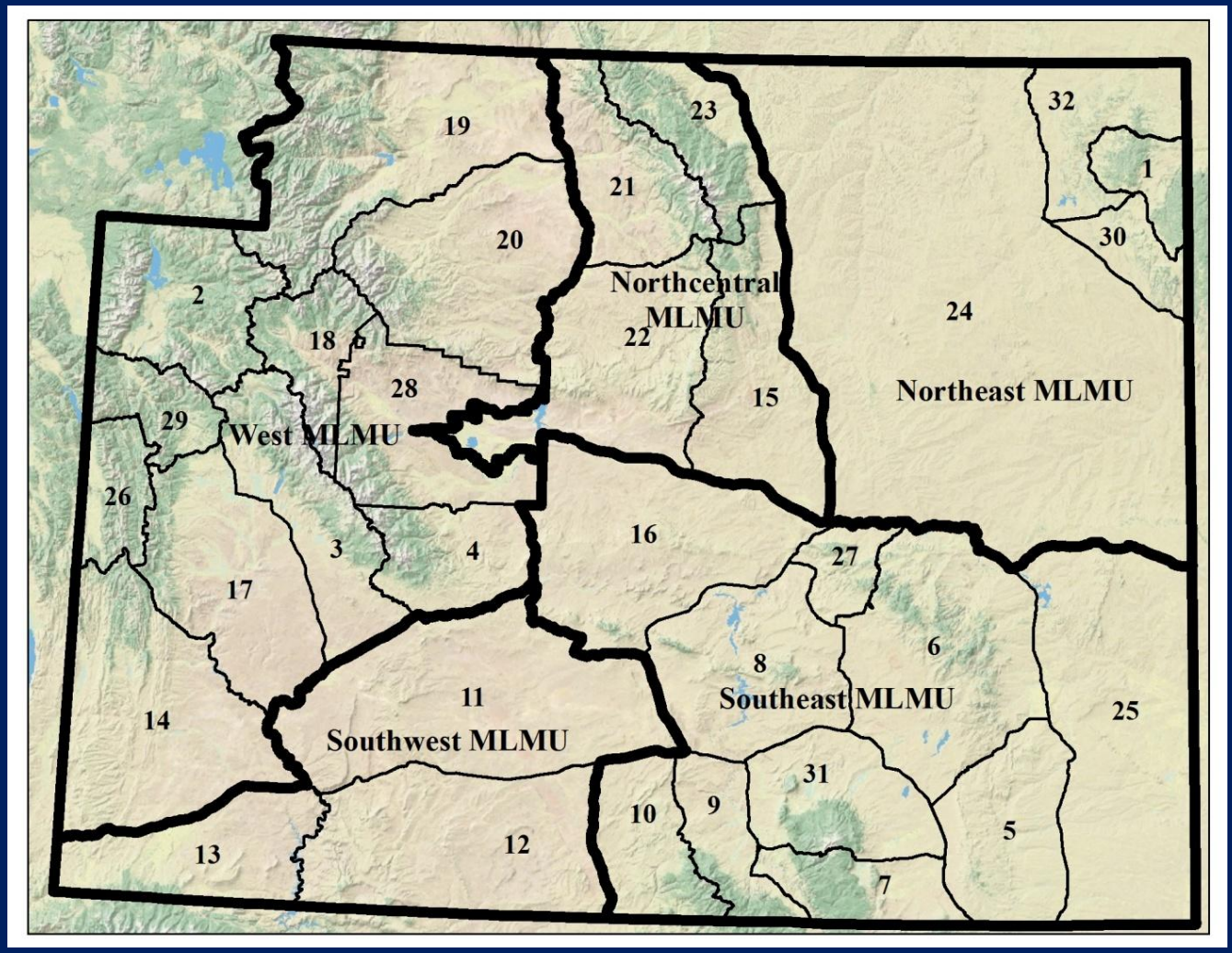
- **GOAL**: To sustain mountain lion populations in core habitat at varying densities depending on management objectives

  - Designed to provide umbrella guidelines, with local mgmt direction and decisions made at that level – ADAPTIVE HARVEST approach

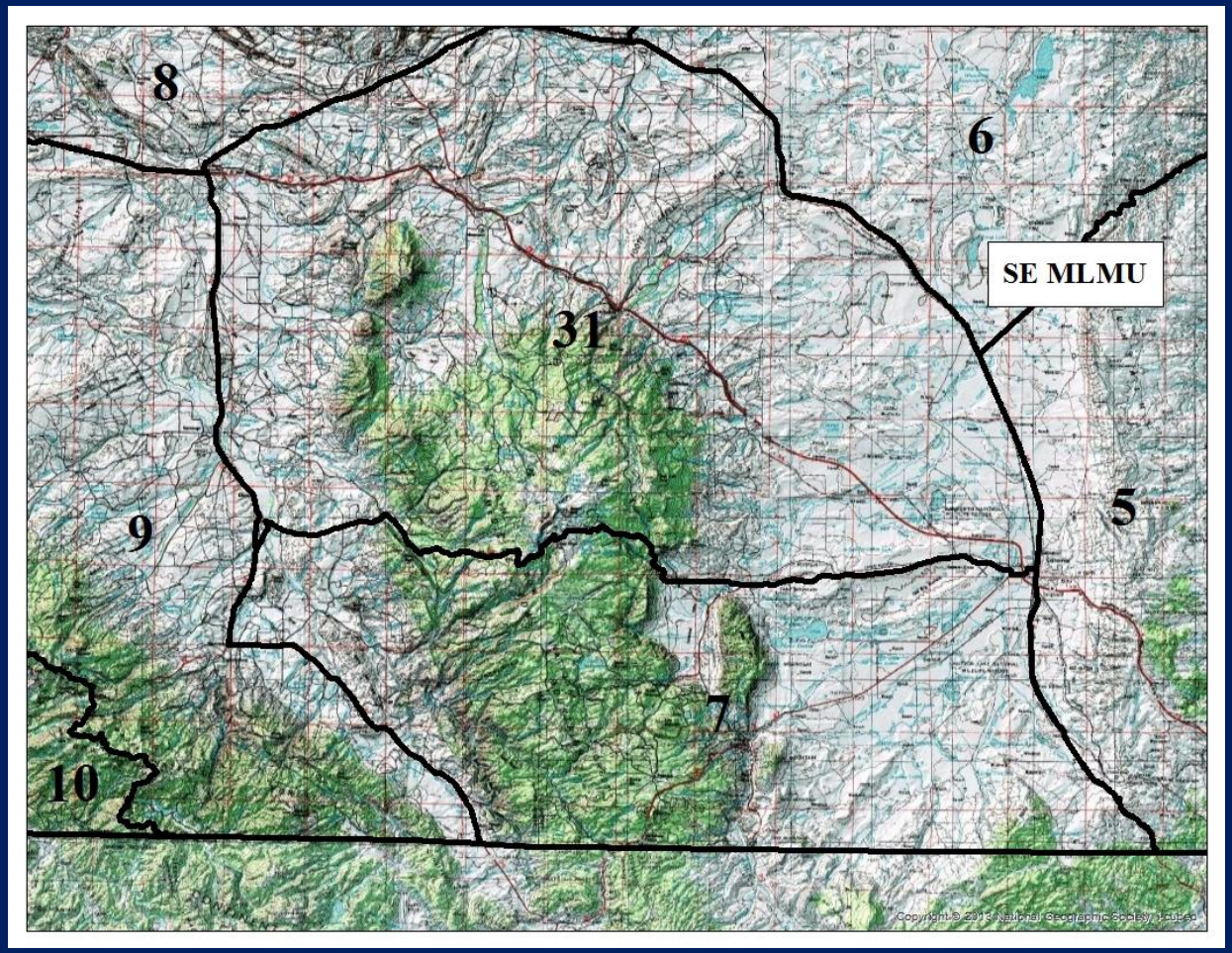
  - Hunt Areas (HAs) managed toward SOURCE, STABLE or SINK (and variations thereof).

  - **Attempt a mix of source/stable/sink across the state for long-term viability and opportunity**

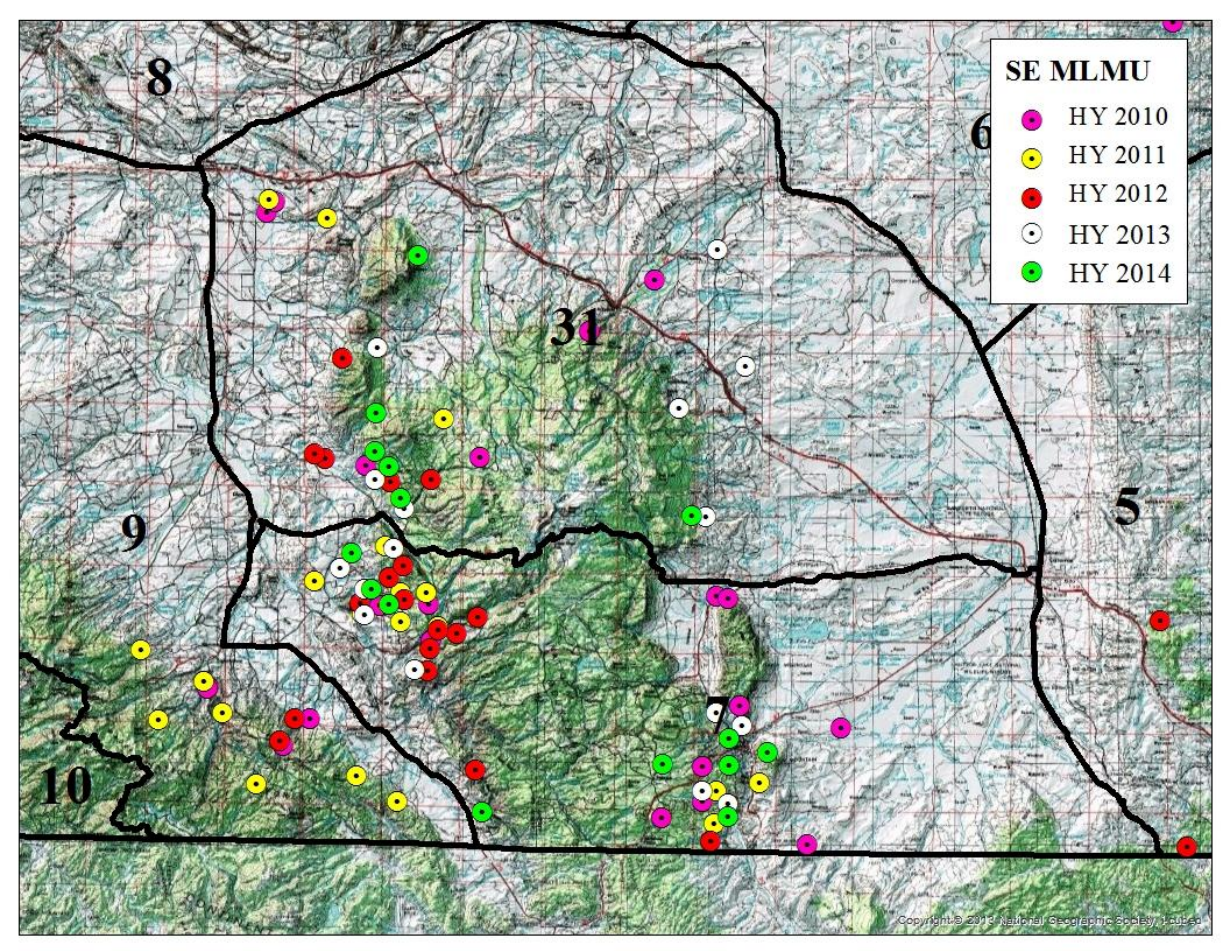
Hunt Areas and Management Units



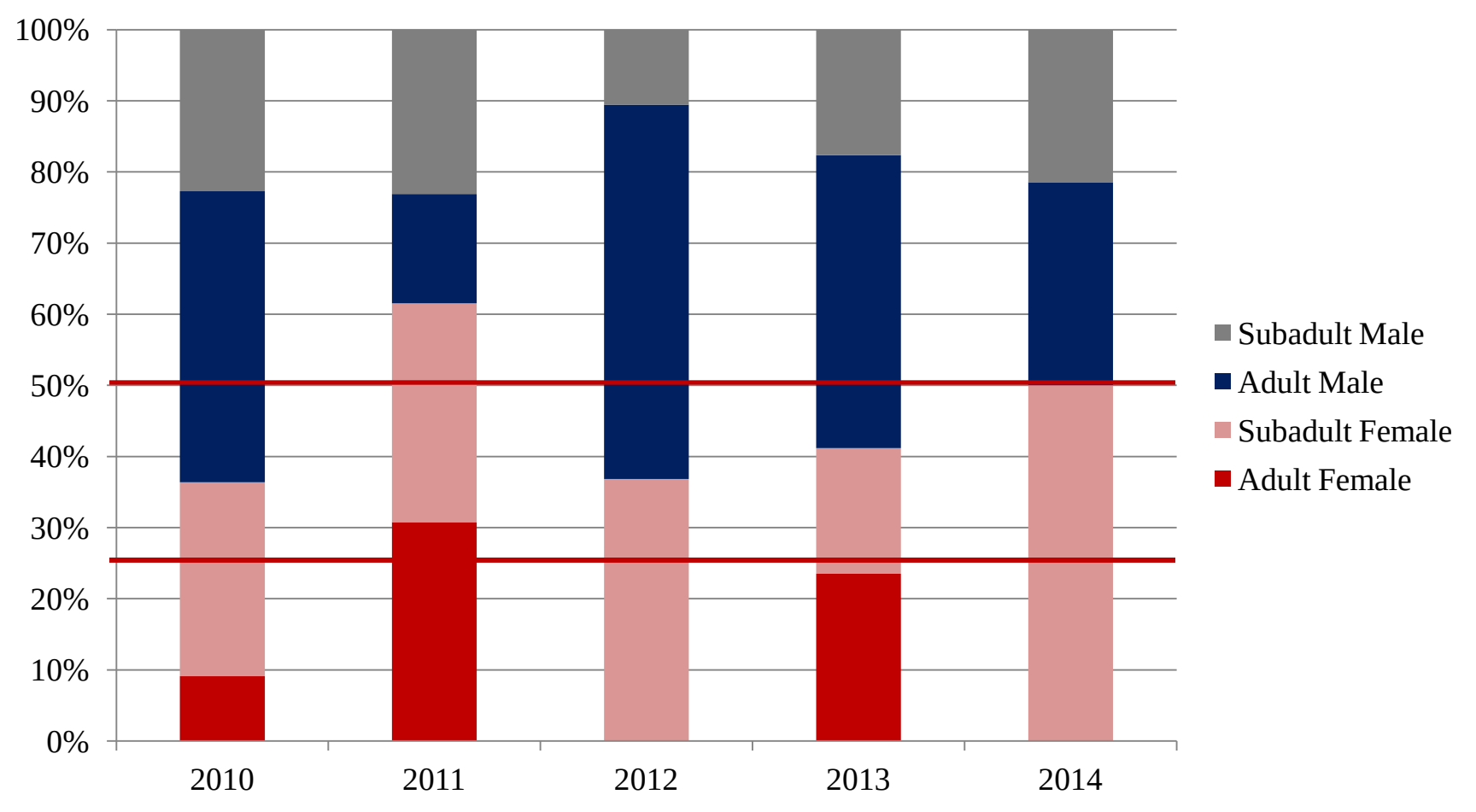
Evolution of Southeast MLMU



Harvest



Breakdown of Harvest



Impacts to Ungulates

- The extent to which mountain lion predation can reduce prey populations is strongly tied to quality of prey habitat, the level of sport hunting in the area, severe weather events, and parasites/diseases of big game present in the area

- Predation can work in tandem with resource limitation to slow ungulate population recovery

Mountain Lions → Ungulates

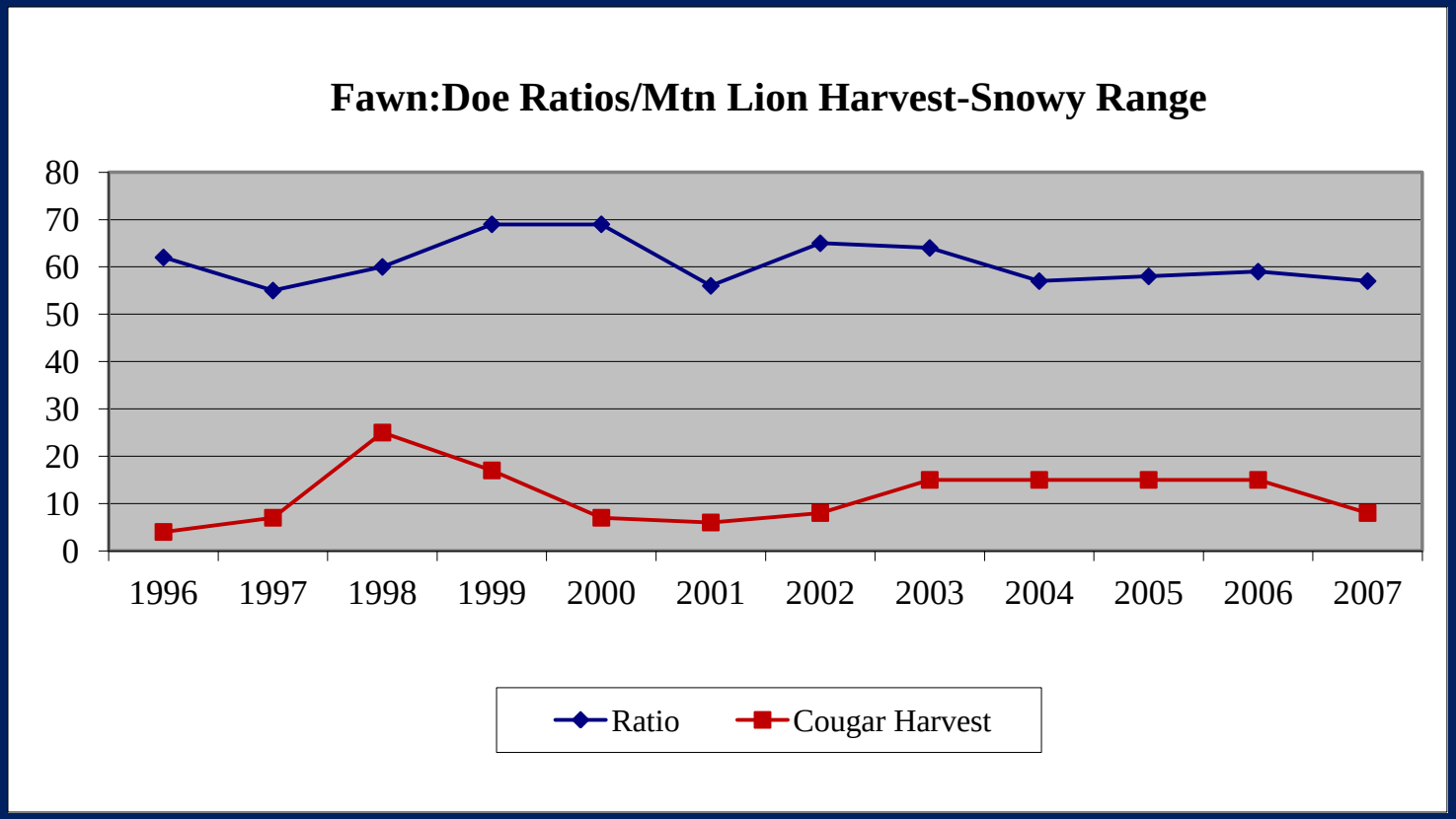
- Population reduction has been documented in isolated herds of species such as desert bighorn sheep

- Increased mountain lion harvest can have positive benefits on ungulates WHEN:
  - Ungulate populations are suppressed and optimal habitat is available
  - Harvest efforts are localized
  - Predation is a limiting factor
    - **Short term benefits**

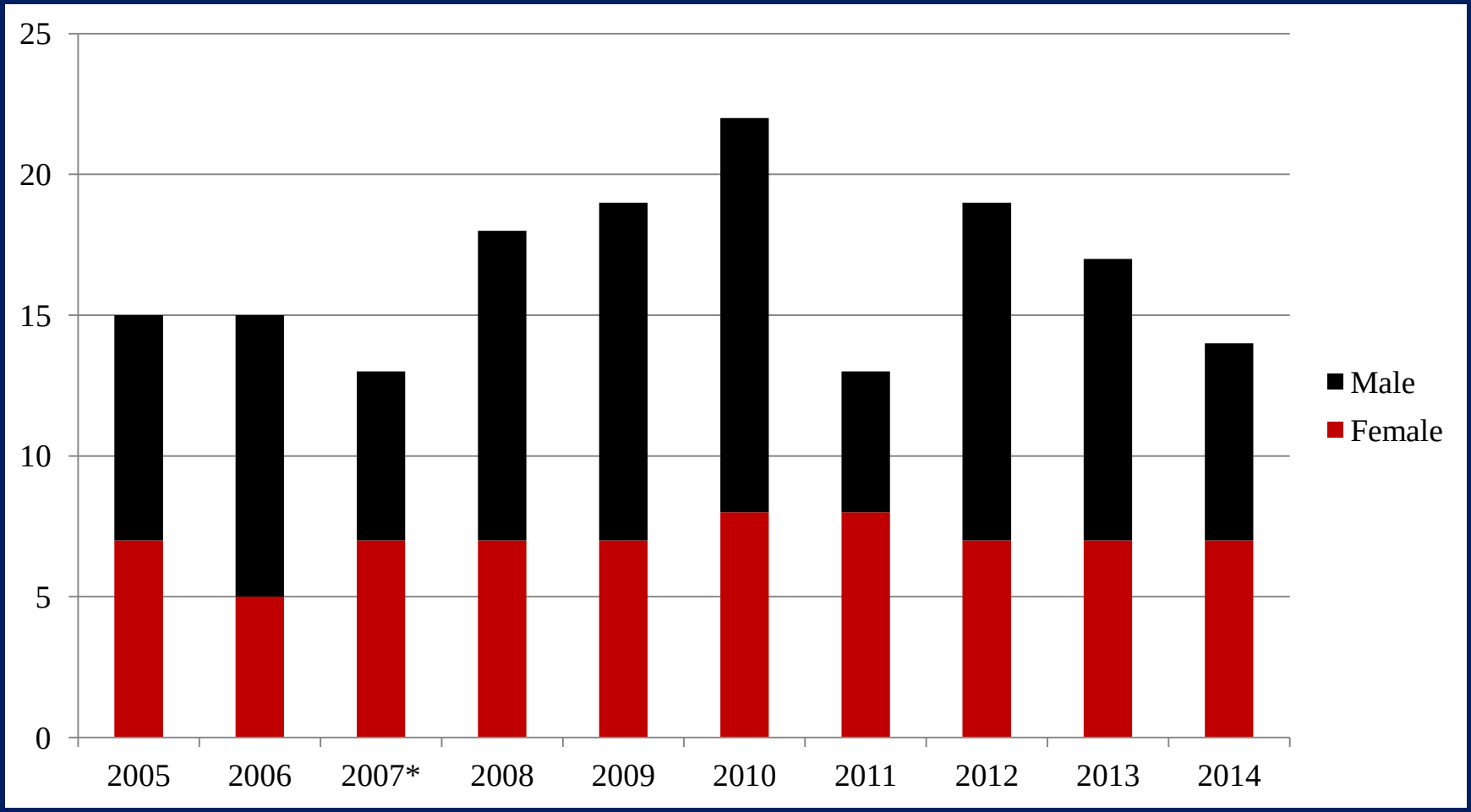
Impacts to Ungulates

- “The limited effects of predator removal from this study (Idaho) and the pervasive effects of enhanced nutrition…lead us to logically conclude that enhanced nutrition will increase mule deer populations more effectively and predictably than predator removal.” (Southeast Idaho Study - 2011)

Lion Harvest → Prey



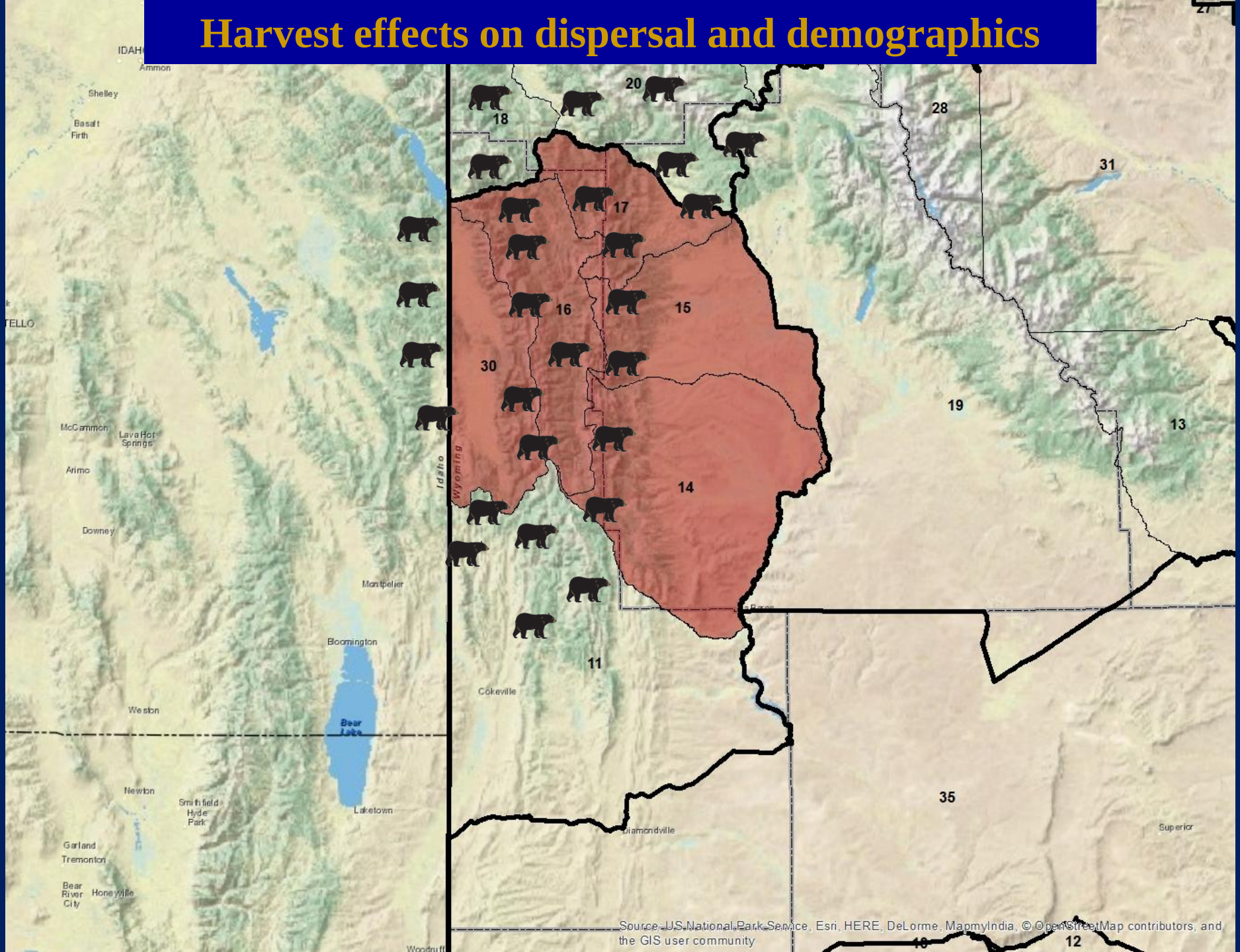
Increased Harvest 2008-2010

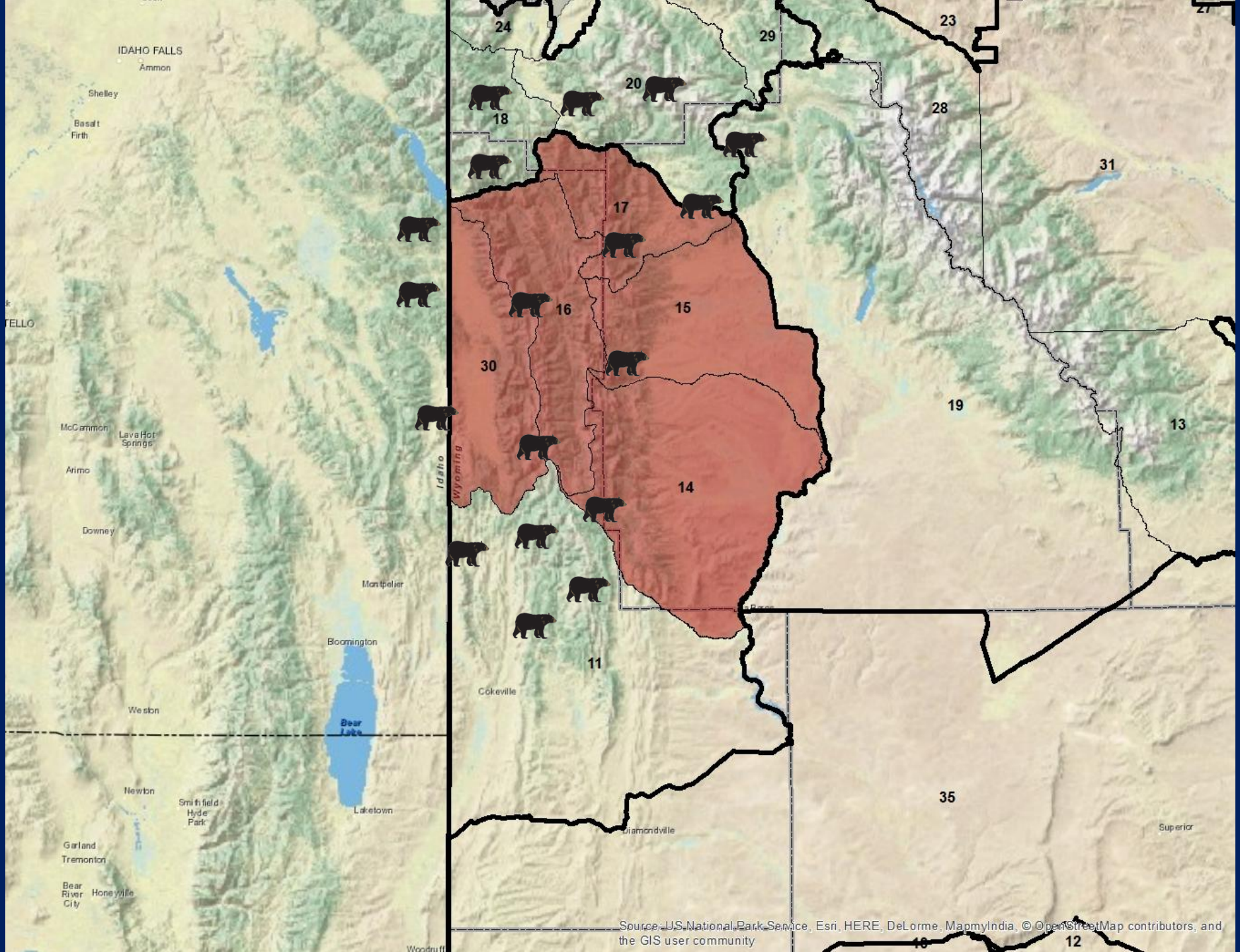


Black Bear Management

- We have seen an increase in harvest over the past few decades statewide
- For bears we closely follow female segment of harvest
  - Bears do not reproduce every year; slower fecundity

Harvest effects on dispersal and demographics

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Shelley
Basalt
Firth
TELLO
McCammon
Lava Hot Springs
Arimo
Downey
Montpelier
Bloomington
Weston
Bear Lake
Newton
Smithfield
Hyde Park
Laketown
Garland
Tremonton
Bear River City
Honeyville
Woodruff
Idaho
Wyoming
Cokeville
Diamondville
Superior
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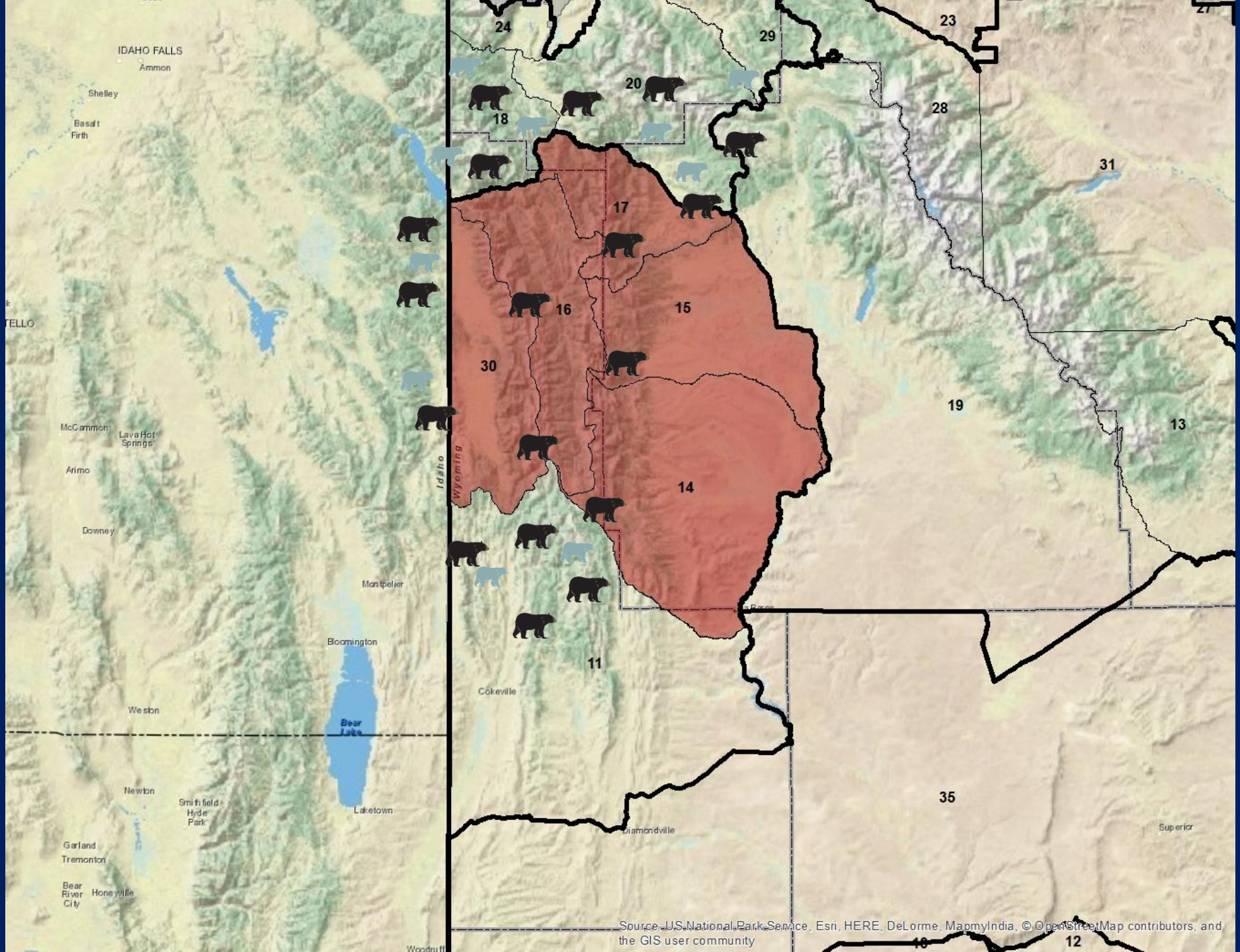
Source: US National Park Service, Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community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Bear River City
Honeyville
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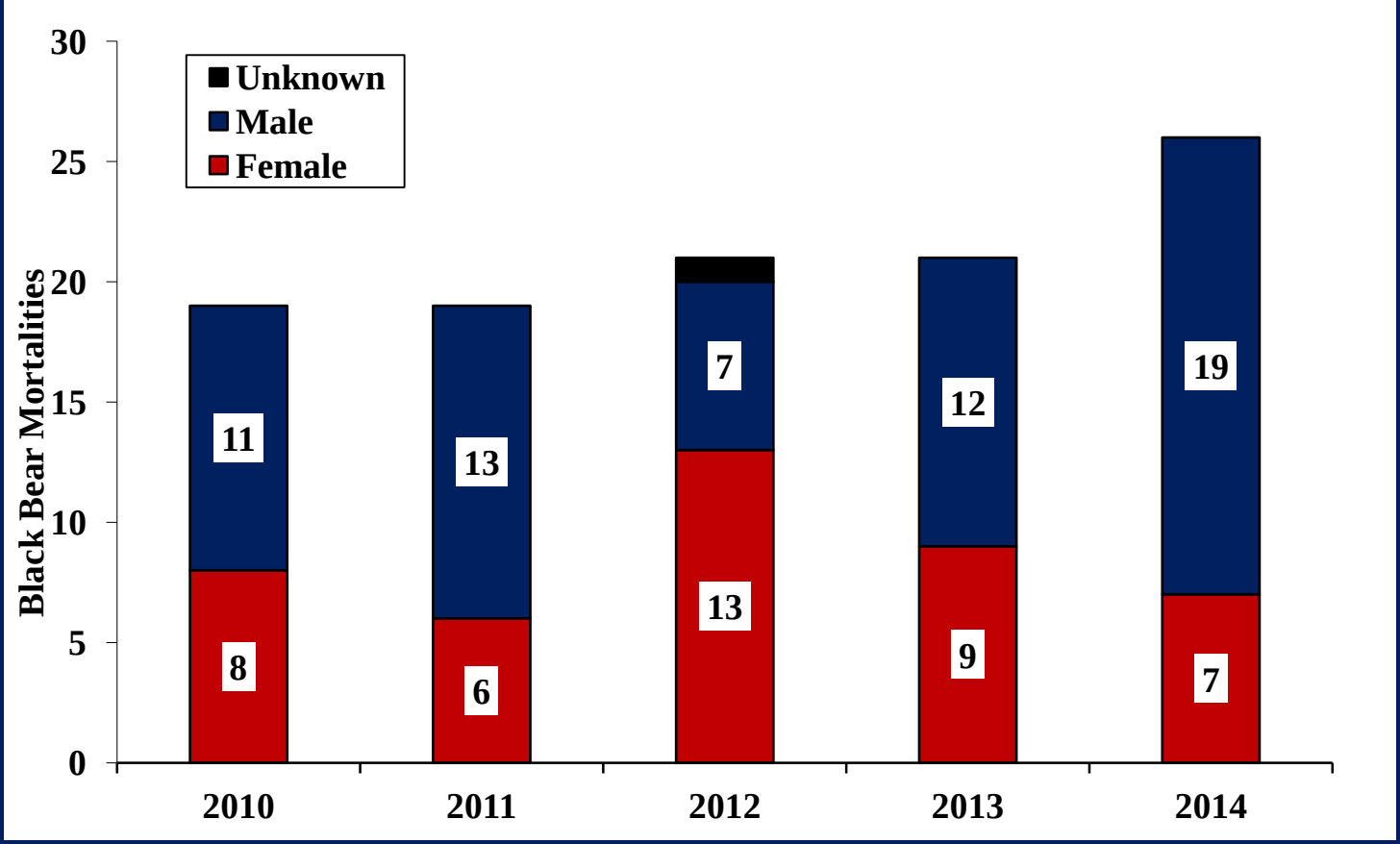
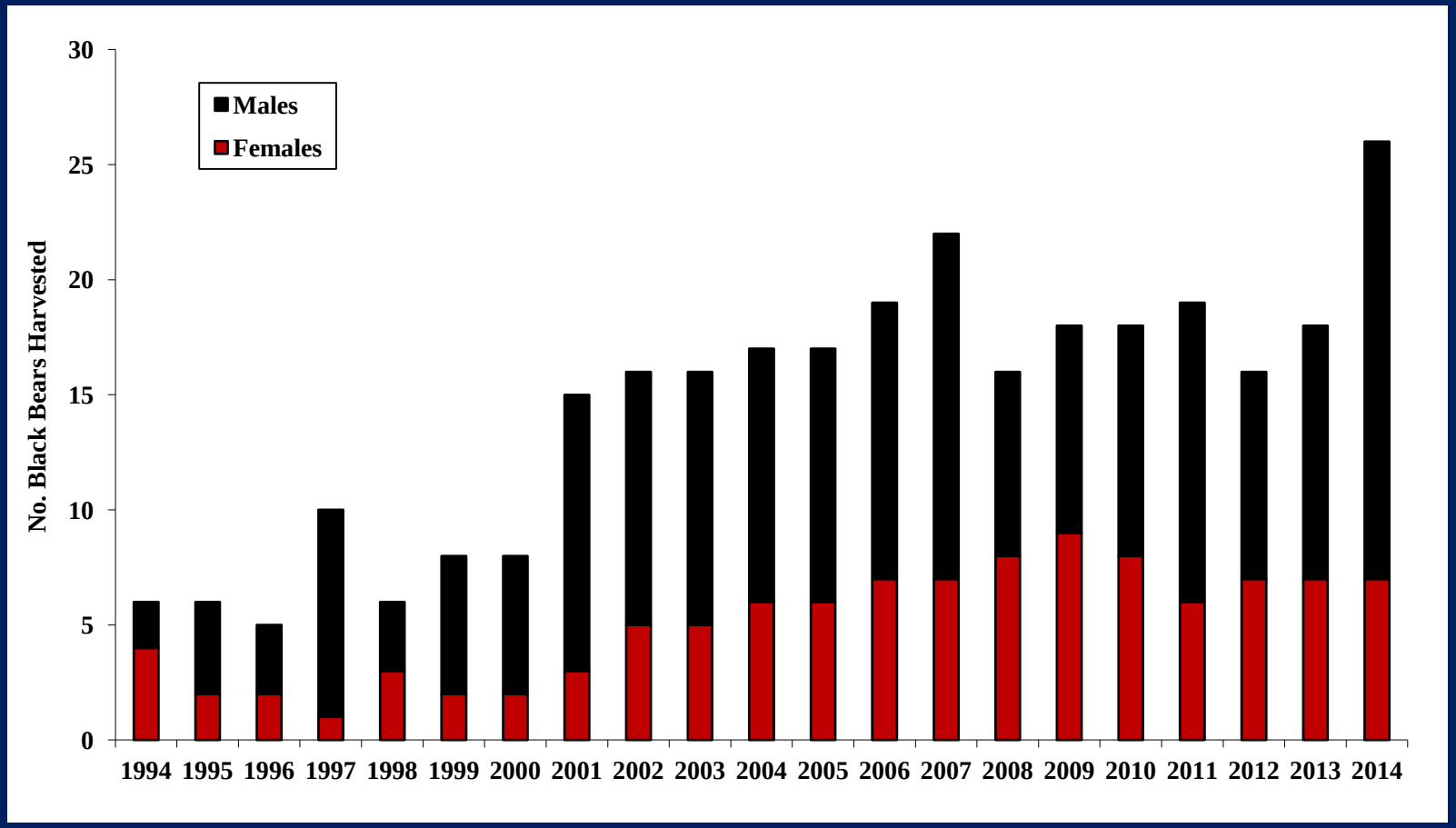
Source: US National Park Service, Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

BMU 502 Harvest



Increasing Harvest Trend

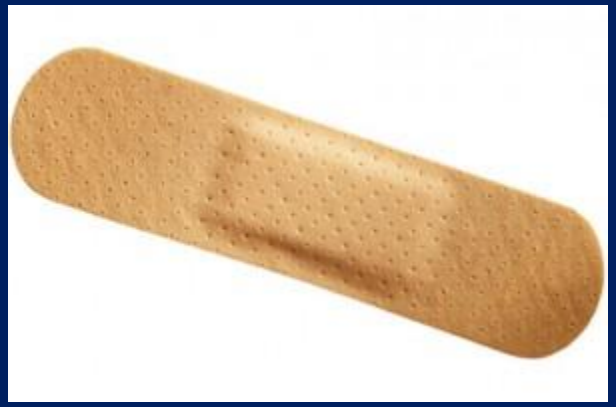


Black Bears and Predation

- Omnivores versus carnivores
  - Omnivores the majority of the time
  - Opportunistically prey on big game
  - Appear to have little to no effect on mule deer
- Predation strategy
  - Timing of carnivory coincides with peak ungulate birth
  - Seek out neonates while they can catch them
    - Primarily elk and moose in North America

Management

- The complex inter-relationships among large carnivore predation and other big game mortalities due to effects of weather, habitat conditions, and harvest by hunters make it difficult for the Department to fix particular ungulate herds or population segments



In Conclusion

- Impacts of predators on prey are very situation specific and dependent on multiple factors
  - **Need to determine if predation is the limiting factor**

- Knowledge of how systems function will allow us to evaluate and manage proactively to deal with predator/prey dynamics into the future

The End